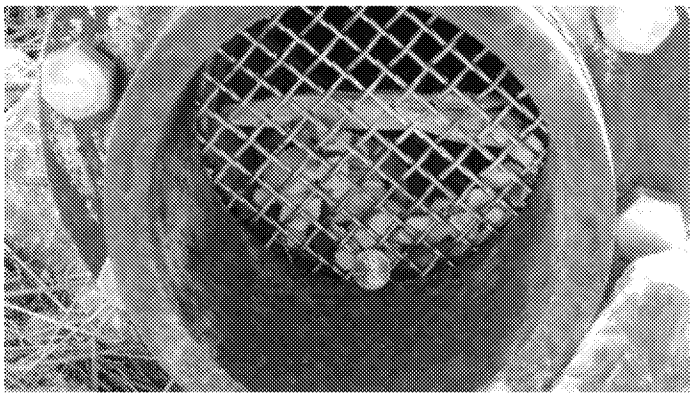
Sanitary Surveys and Significant Deficiencies



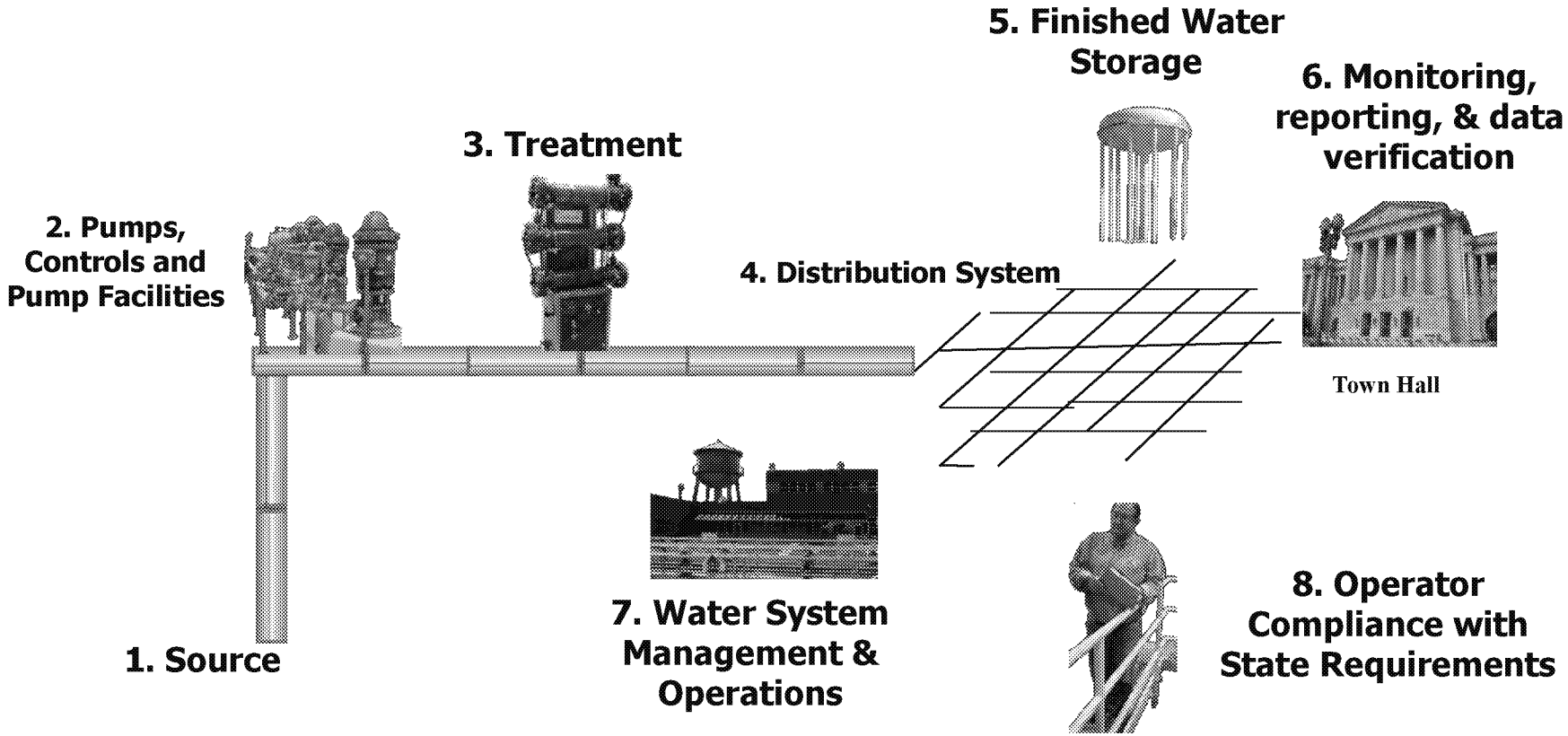
Sanitary Surveys:

Definition of a Sanitary Survey:

On-site review of a public water system's:
- water source,
- facilities,
- equipment,
- operation and maintenance.

Surveys assess a system's capability to supply safe drinking water.

Sanitary surveys assess 8 elements:



What is the frequency of Sanitary Surveys

3 years for community water systems

5 years for non-community water systems

Significant Deficiencies

Significant Deficiencies:

Include, but are not limited to, defects in the design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that EPA determines to **be causing or have the potential for causing the introduction of contamination into the water delivered to consumers.**

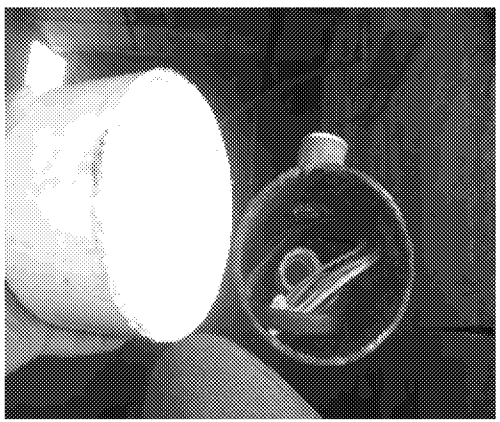
If any significant deficiencies are identified at your water system, you must respond to the EPA and you will be required to address them according to a schedule or you will receive a violation.

Significant Deficiency Examples

Examples of Source Significant Deficiencies

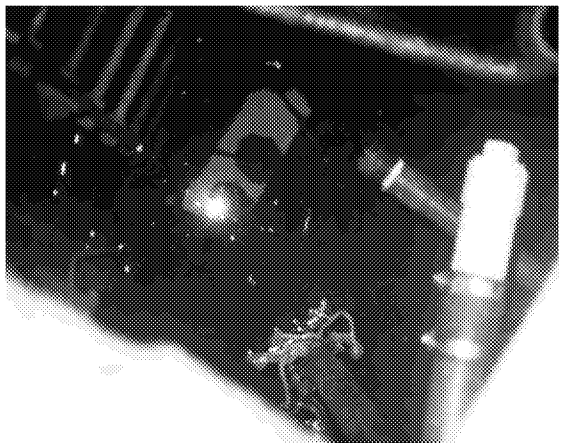
Conduit not sealed

No wellhead sanitary seal; conduit & wires not properly sealed



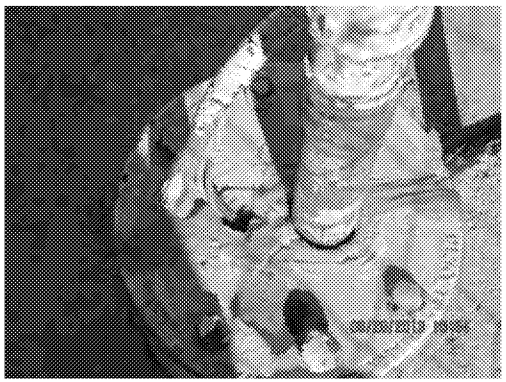
Potential sources of contamination surrounding wellhead

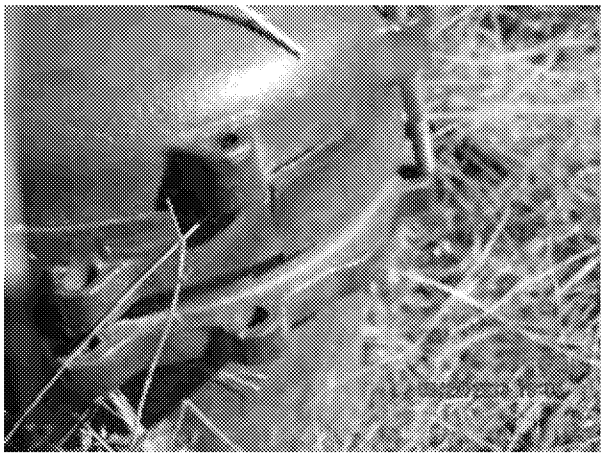
Examples of Source Significant Deficiencies



Dead snakes and mice floating in a spring box

No wellhead sanitary seal; conduit & wires not properly sealed





No wellhead sanitary seal; missing bolts = not properly sealed

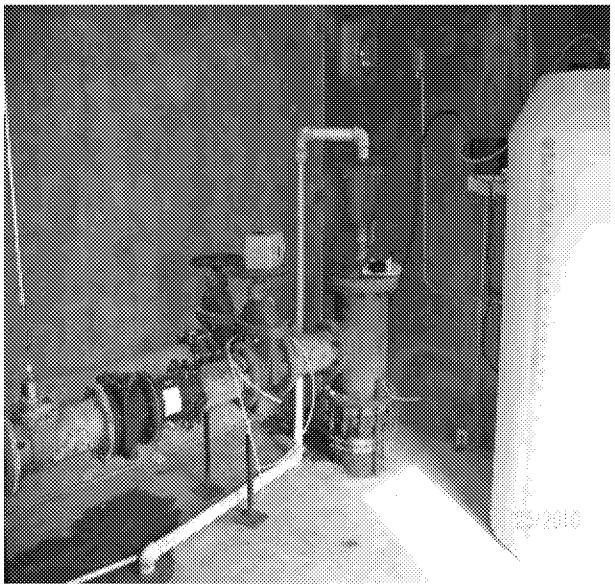
Examples of Source Significant Deficiencies

Lid should have a flexible gasket for a positive seal

Lid is shoebox type but not locked

Near stream – it could have surface water influence

Examples of Source Significant Deficiencies



Cross connection with the venting/vacuum tied directly to the drain

Obvious contamination

Examples of Source Significant Deficiencies

Deteriorating concrete around the spring needs to be repaired

Dead mouse carcass on wellhead

Examples of Source Significant Deficiencies

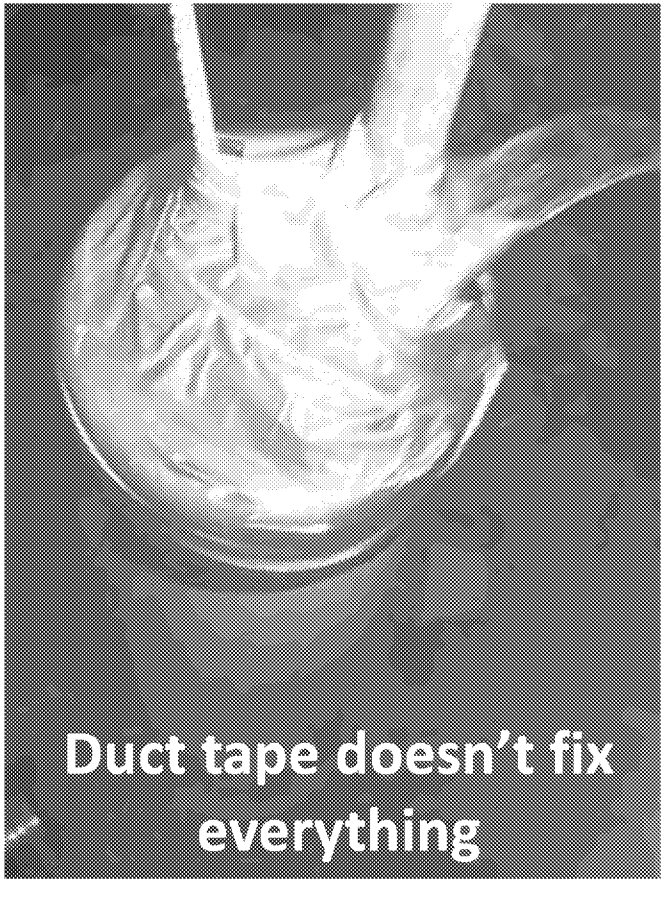
Gaps around pellet chlorinator allowed in irrigated water

Cross connection with the venting/vacuum tied directly to the drain

EPA Region 8 Sanitary Surveys and Significant Deficiencies

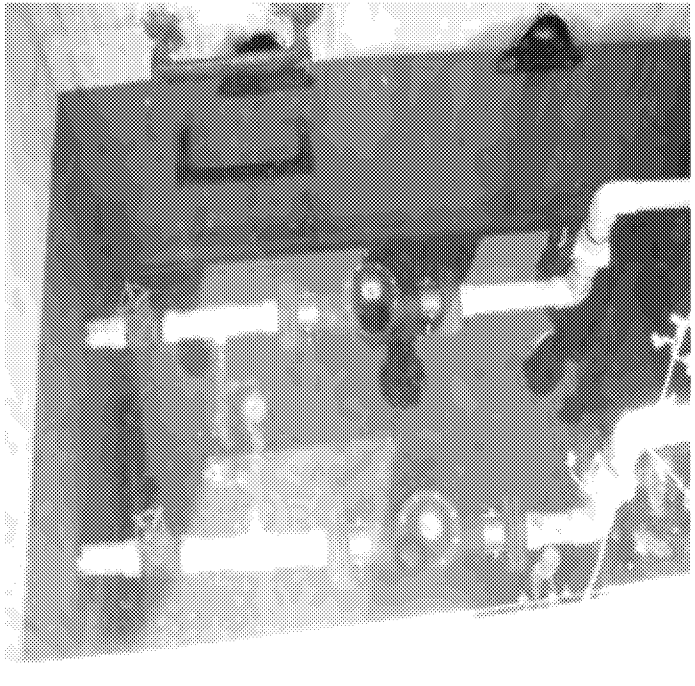
Examples of Source Significant Deficiencies

Conduit is not properly sealed.



Examples of Significant Deficiencies

Meter vault is flooded and cause of flooding is unknown



Mouse droppings in well house.

Examples of Source Significant Deficiencies

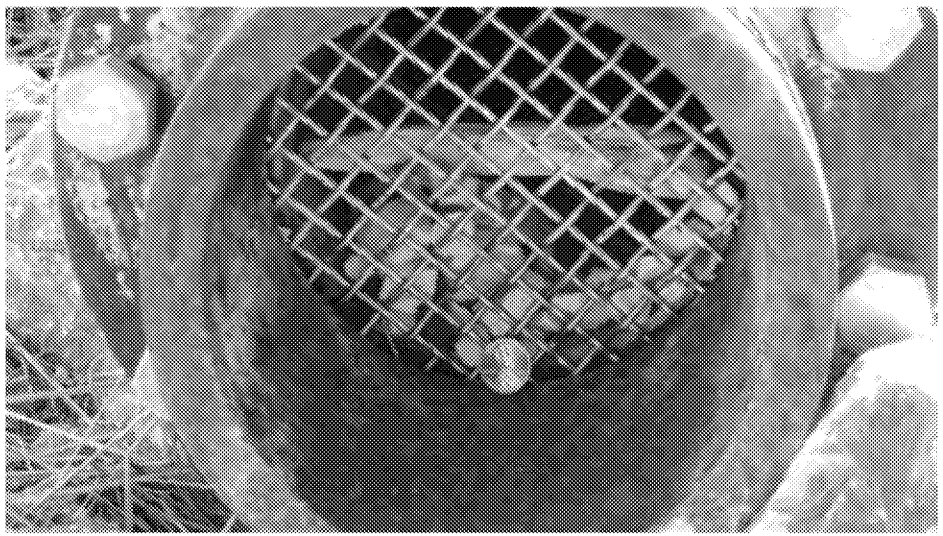
Wells in driveways need to be protected by bollards

Lack of a sanitary seal

Examples of Source Significant Deficiencies

Wells should be 18" above ground level or 12" above a concrete pad

Gravity Storage Tank Significant Deficiencies:

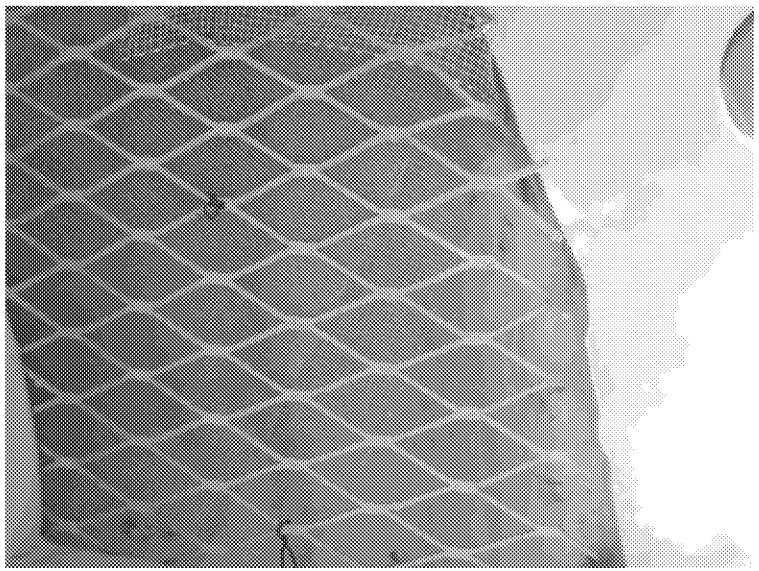


Overflow discharge does not have #24 mesh non-corrodible screen

Flapper valve on overflow does not seal properly

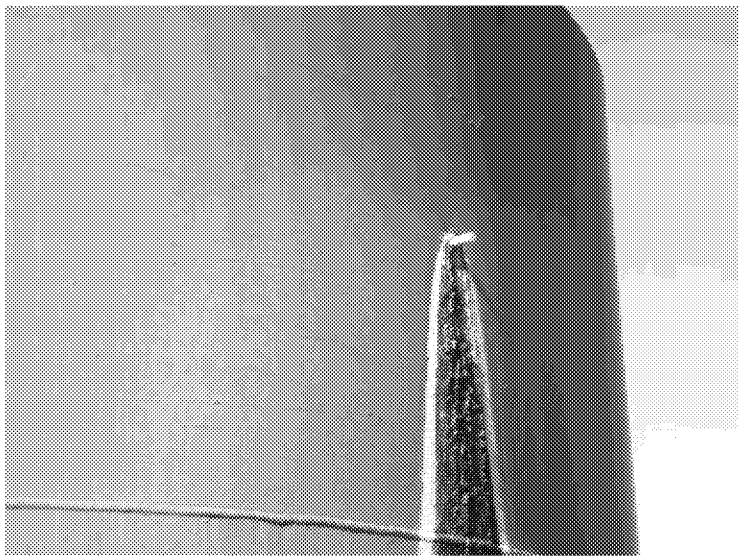
Storage Tank Significant Deficiencies:

#24 mesh screen on air vent not installed properly



Overflow not brought down to 12 – 24" above the ground surface

Storage Tank Significant Deficiencies:



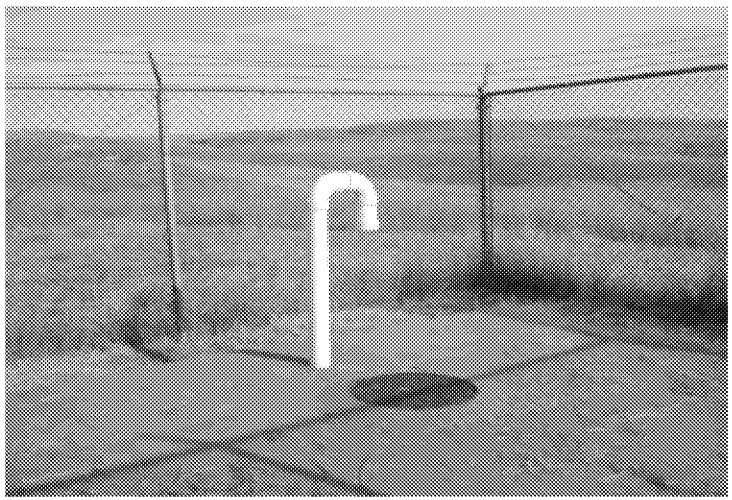
Un-repaired bullet hole in storage tank.

Hatch on buried tank does not have gasket.

Storage Tank Significant Deficiencies:

Hatch on buried tank (not water tight, not of correct type)

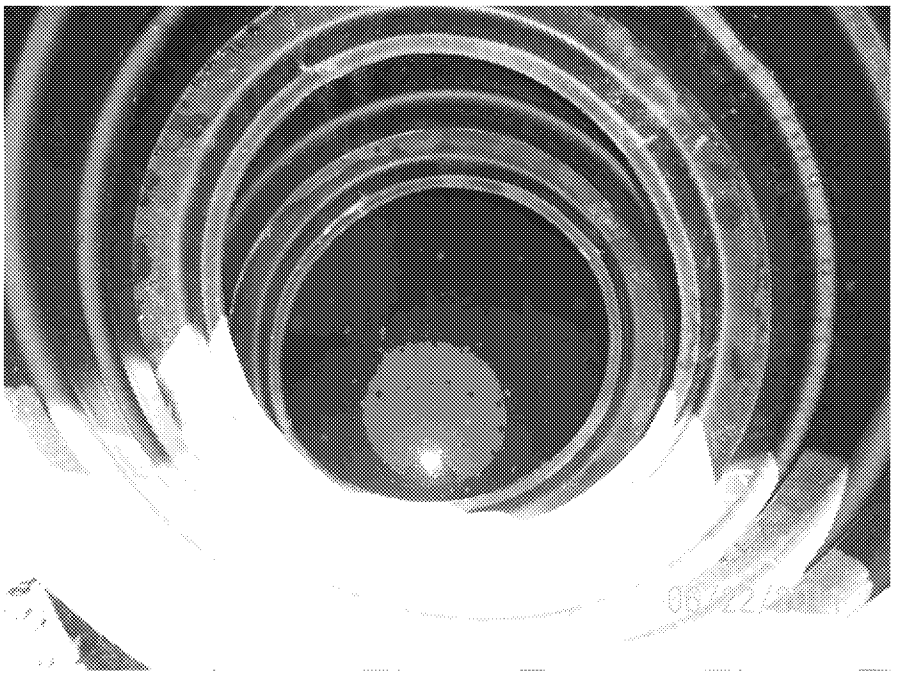
Hatch on buried tank is not 24" above ground, and does not have gasket (manhole-type cover).



Storage Tank Significant Deficiencies:

Overflow at ground level (not 12" – 24" above); does not have discharge structure or splashpad

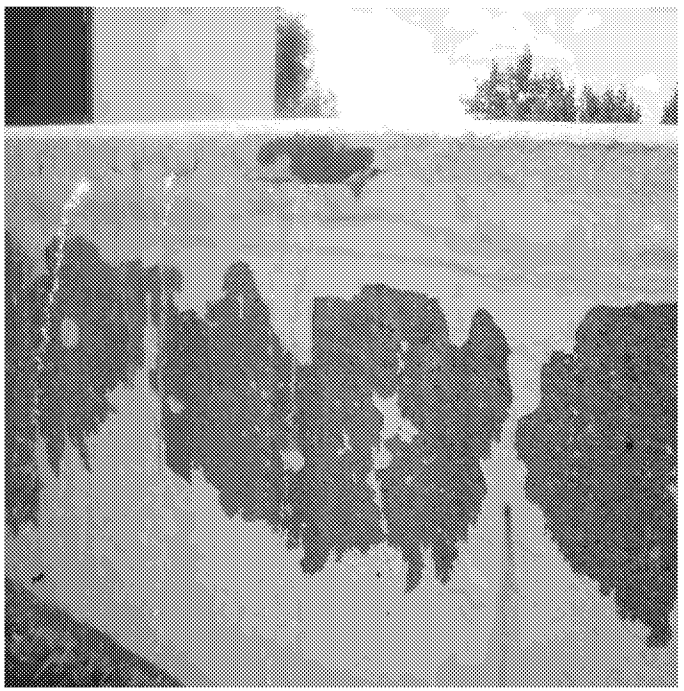
Finished water storage tanks located below ground in a horse corral.



Storage Tank Significant Deficiencies:

Frozen finished water storage tanks

Leaking finished water storage tanks

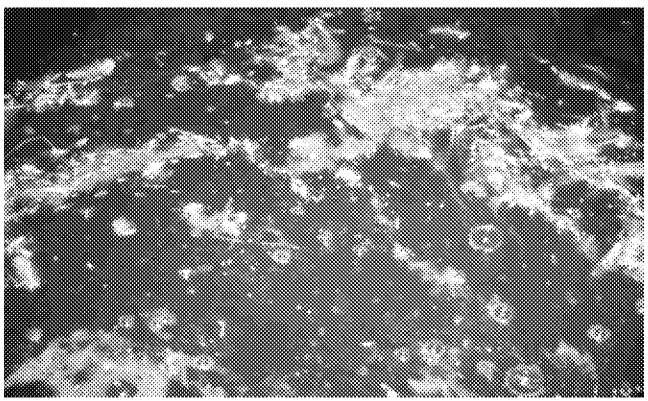


Examples of Significant Deficiencies

Storage tanks over 10 years old must be cleaned once every 10 years

Lack of Storage Tank Cleaning- Example: Gideon, MO

- Untreated groundwater source
- Taste and odor complaints caused municipality to conduct a comprehensive flushing program
- Salmonella had contaminated the largest municipal tank (1993)
- Nearly 600 of the 1104 residents become ill and seven people died in a nursing home



Photos and information courtesy of James A. Goodrich, Ph.D. with EPA/ORD

Examples of Significant Deficiencies

Storage tanks over 10 years old must be cleaned once every 10 years

"We cannot say with absolute certainty where the Salmonella came from because the actual contamination event was not directly observed, and probably occurred at least seven to 10 days before the outbreak was reported," Falco acknowledged. "But after weighing all the evidence, we believe that the most likely scenario is that contamination entered this in-ground storage tank."

2008 salmonella outbreak in Alamosa, CO

Examples of Management Significant Deficiencies

Lack of an emergency response plan (ERP)

➡ These are for your use! Have all emergency response/electrician/plumber/etc. contact information in one location

Templates available at:
https://www.epa.gov/region8-waterops/reporting-forms-and-instructions-reporting-forms#ERP

How do YOU prepare for a sanitary survey?

Things to Prepare for Your Sanitary Survey:

General Facility Checks — prior to sanitary survey date

- Are all facilities accessible (e.g., keys to buildings available, gates accessible?)
- Are all facilities safe for inspection attendees (e.g., no exposed wiring, no uncovered pits)?
- Are all facilities operational (e.g., chemical feed pump working)?
- Are all facilities clean (e.g., chemicals/spare equipment stored properly, rodent free)?
- Are there any obvious problems with each potable water facility (e.g., holes in tanks; sanitary well seals not in place; and vents and overflows not screened with 24-mesh non-corrosive screen)?

Things to Prepare for Your Sanitary Survey:

General Paperwork Reviews — prior to sanitary survey date

➡ Review previous sanitary survey reports and be prepared to discuss findings and resolution of deficiencies and recommendations

Other items to have available:

➡ Water testing equipment (e.g., chlorine analyzer, sampling bottles)

➡ Paper and pencil for notes and a camera (optional)

Things to Prepare for Your Sanitary Survey:

Have These Records Available for Review During the Sanitary Survey

- Bacteriological Sample Siting Plan with Map
- Water quality analyses/laboratory records
- Monitoring Schedule for current year and cross-connection records
- Emergency Response Plan (Required for all PWSs)

Review the Tech Tips Provided Prior to Your Sanitary Survey

* Make any needed improvements before the date of your survey, especially to avoid having significant deficiencies identified!!!

What to do when you receive your sanitary survey report

What do I need to do when I receive my survey report?

1) Review the cover letter and sanitary survey report.

- All of the significant deficiencies are noted in the cover letter and at the beginning of the sanitary survey report.

2) ALL significant deficiencies must be addressed.

3) Recommendations are solely that - recommendations.
   -But they should be addressed as a best practice!

To avoid receiving a violation if you have significant deficiencies (during initial response):

If your survey identifies significant deficiencies, in 2015 and thereafter, there will be an automatic corrective action date (date by when you must fix the deficiencies) of **6 months** from the day you receive the survey report.

→ You **will** need to notify us once those improvements are completed

→ You must request an extension from EPA **only** if you need more than 6 months to correct any of the deficiencies

→ EPA will respond notifying you if your proposal has been accepted for deficiencies needing more than 6 months to correct

To avoid receiving a violation if you have significant deficiencies (when completing corrective actions):

1) Make the improvement to address the significant deficiency.
2) If an extension is needed, request one BEFORE the corrective action deadline.
3) You MUST notify EPA within 30 days after making the system improvements to address the significant deficiencies. Please also include the WY DEQ Engineer in that response email as well.
4) EPA will notify you that the significant deficiencies have been addressed for the items identified during that specific survey.

Significant Deficiency Story Time!!!

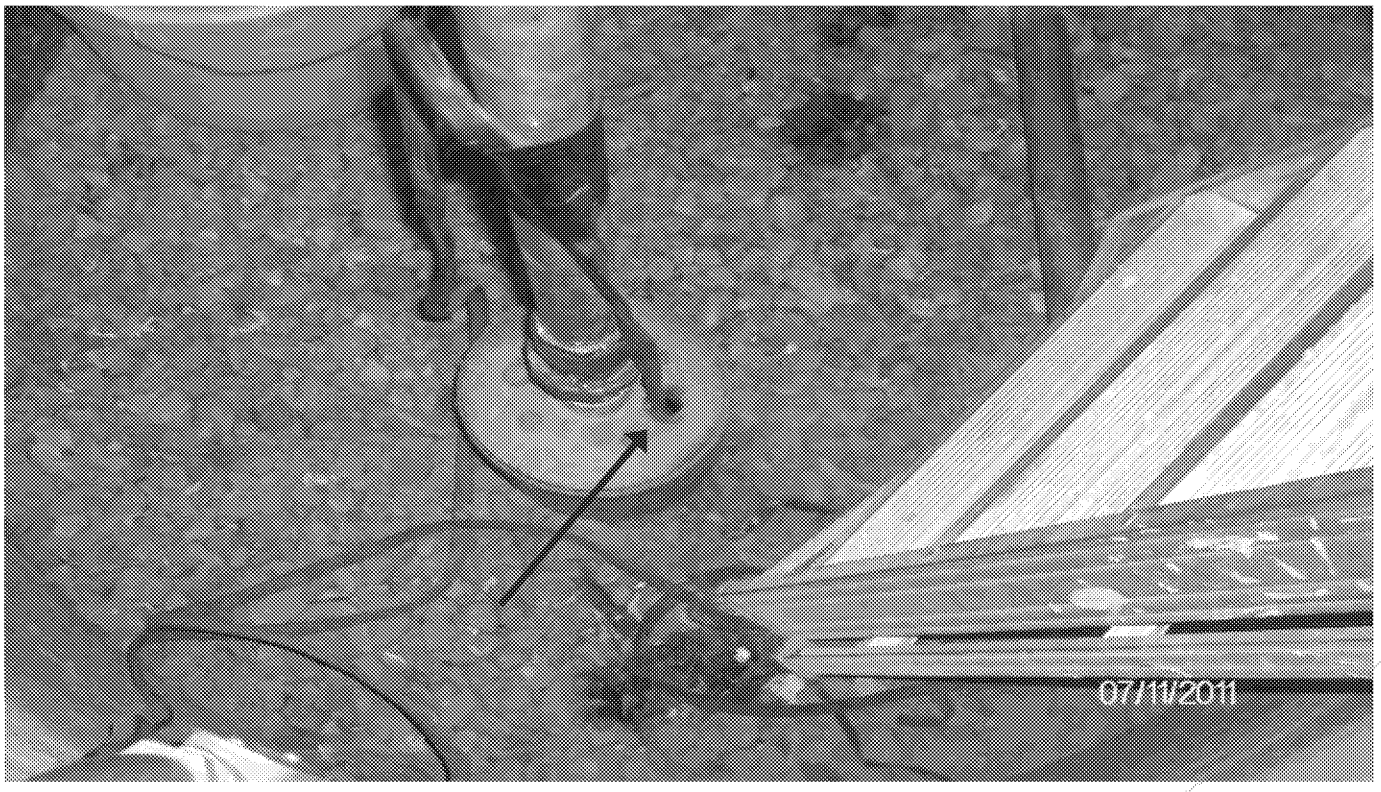
Significant Deficiency Story Time

Once upon a time, a transient non-community drinking water system had a sanitary survey conducted at its facility.

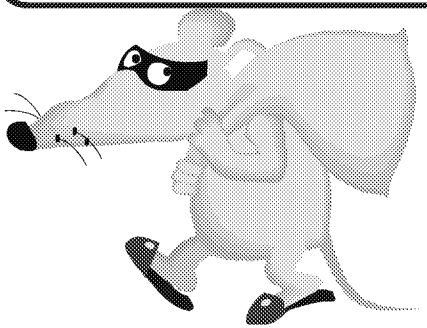
Significant deficiencies were found!!!

Significant Deficiency Story Time

Significant Deficiency: The sanitary seal and casing on the well are not overlapping, watertight, or adequately secured.



Significant Deficiency Story Time



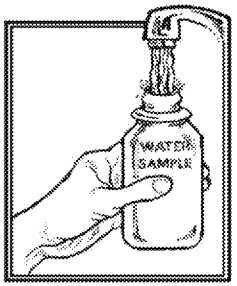
Significant Deficiency: Unsanitary conditions inside well house.

The well house must be protected from entrance by animals. The mice and their droppings shall be removed. Please refer to the Center for Disease Control (CDC) website regarding how to properly clean up this area to prevent contracting the Hantavirus pulmonary syndrome:

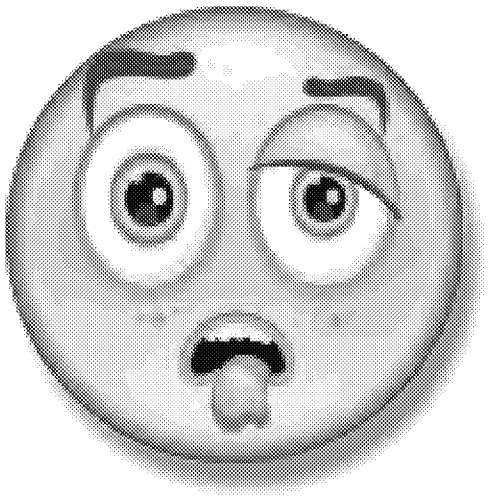
http://www.cdc.gov/hantavirus/hps/prevention.html

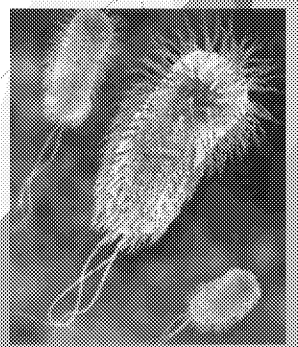
Significant Deficiency Story Time

Shortly after their survey, the system had a TC+/unsafe routine Total Coliform Rule sample.



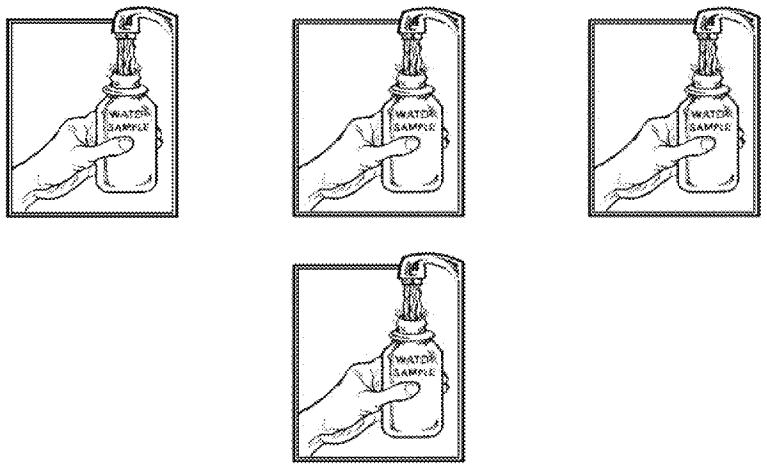
One of the 3 Revised Total Coliform Rule repeat samples came back TC+, & the Ground Water Rule source sample was TC+.





Significant Deficiency Story Time

This triggered a Level 2 Assessment of the system because:



-The routine RTCR sample was TC+ positive.

-The Ground Water Rule source sample, was EC+.

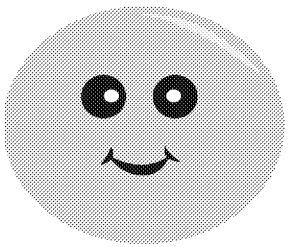
Significant Deficiency Story Time

With the system's approval requested Super Dan Chamberlain, with the Wyoming Association of Rural Water Systems (WARWS) to assess the system:

Significant Deficiency Story Time

Super Dan:

1) Instructed the system on how to properly seal their well; and
2) Replaced the missing bolt on the wellhead; and
3) Ensured the mouse droppings were properly removed; and
4) Assisted with shock-chlorinating the system; and
5) Flushed the system; and
6) Assisted with follow-up RTCR samples that all came back clean.



7) Determined that the EC+ likely originated from a mouse dropping (or even a mouse!) getting into the drinking water. **Ewww!**


Don't
FORGET!

Sanitary Surveys

Call EPA or the Wyoming Association of Rural Water Systems (WARWS) if you need assistance with your water system; call the WY DEQ District Engineer prior to making improvements.

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Small Systems Circuit Rider with WARWS
Contact EPA to request

Wyoming DEQ District Engineers
http://deq.state.wy.us/wqd/www/Permitting/Pages/districts.asp